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Day of Obs. 1871.	Satellite.	Phenomena.	Instrument and Power used.	Oxford Mean Solar Time of Observation. h m s	Greenwich Mean Solar Time from N. A. h m s	Observer.
May 28	I.	Occ. dis. first contact	Heliom^r with power 200	10 10 23·9	10 9	K
		,, bisection		10 12 33·5		
		,, last contact		10 15 3·1		
June 6	I.	Ecl. reap. first seen	,,	10 0 27·6	10 5 5·5	L

Notes.

1871, Feb. 13. J. III. occ. dis. The time of first contact is considered accurate. Clouds interfered with the other phases. Very cloudy at reappearance.

20. J. III. occ. dis. Very tremulous; cloudy at last contact.

Mar. 22. J. I. ecl. reap. The satellite attained its full brightness, 2½ minutes after first reappearance.

1873, Jan. 25. J. I. trs. ingr. A good observation; the planet and satellites well defined and steady.

April 5. The full brightness could not be satisfactorily estimated, owing to cloud.

Apr. 8. The phenomenon occurred some minutes before the time in the *Nautical Almanac*. The observation of first contact tolerably satisfactory; that of the last contact not so.

9. At the time recorded, only a suspicion of the reappearance, which proved to be correct. (M.)

20. The sky was splendid, but the images were very unsteady. (M.)

23. Cloudy.

29. The sky was splendid; the satellite seemed to disappear and reappear several times before the time noted for the last contact.

May 3. The planet was beautifully defined with the power used (150).

June 6. Too hazy to determine the time of full brightness.

The initials M., L., and K., are those of Mr. Main, Mr. Lucas, and Mr. Keating.

The observations of the satellites for the year 1872 will be found in No. 8 of vol. xxxii. of the *Monthly Notices*.

Proposal to determine the Solar Parallax by Observations of Flora. By Dr. Galle.

(*Translated from a Letter to Mr. Hind, dated Breslau,* 1873, *May* 28.)

Last year I make a proposal to astronomers provided with large telescopes to endeavour to determine the solar parallax by means of the small planets which came nearest to the Earth. I do not know whether you noticed the paper (*Ast. Nach.* vol. lxxx. p. 1) in which this suggestion was made, which consisted in measuring, with a wire-micrometer of an equatoreal differences of declination with Northern and Southern stars situated near the planets at observatories in the Northern and Southern hemispheres; with special reference at that time to last year's opposition of *Phocæa*.

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A still more favourable opportunity for such an attempt occurs in the present year in reference to the first of the planets, *Flora*, discovered by yourself, at its opposition in the months of October and November. For the time of opposition coincides accurately with that of perihelion passage, in consequence of which the planet approaches the Earth within the distance of 0·87.

Although a considerable number of astronomers are occupied this year with the preparations for the observations of the transit of *Venus*, and therefore my proposition is not at a very convenient time, yet so many advantages appear to concur at this opposition of *Flora* that I thought it desirable not quite to neglect recommending to observe it, and therefore have already sent, a month ago, a list of comparison stars selected from the Bonn *Durchmusterung* to several observatories in the Southern hemisphere; the Cape of Good Hope (Mr. Stone), Cordoba (Dr. Gould), and Melbourne (Mr. Ellery). I have also sent, some days ago, this list of comparison stars and a paper* on the results of last year's observations of *Phocæa* to Prof. Peters for publication in the *Astronomische Nachrichten.*

You will perhaps excuse the liberty I have taken in making also this special communication to you on this subject, which arises from my desire to learn from you whether there are at present any large telescopes in use in Australia besides that at Melbourne, and whether any support would be given in England, to which country astronomers principally owe the establishment of Southern observatories, to the carrying out of the proposed scheme at one of them; also whether an answer to the proposal could arrive in Europe in time to secure the requisite co-operation. For I do not doubt that *several* observers in the Northern hemisphere would be prepared to participate in it, if they were assured of the co-operation of an observatory in the Southern. Indeed Prof. Brünnow at Dublin, and Prof. Möller at Lund, have in this case already promised their assistance. Moreover, I received some weeks ago a letter from Rear-Admiral Sands at Washington, himself calling attention to the favourable opposition of *Flora*, and, with a view to the co-operation of the equatoreal at Washington, inquiring about a list of comparison stars, which I accordingly forwarded to him also.

Various circumstances have hindered the co-operation of the Southern observatories in the observations of *Phocæa* last year. Meanwhile those made in the Northern hemisphere, as such have come to my knowledge from Dublin, Lund, and Neuchâtel, have still further confirmed me in the opinion of the possibility of obtaining very accurate results by this method. Of the most accurate observations at Dublin and at Lund, only one day indeed (August 18) corresponded; but the declinations of the planet thus obtained, when reduced to the same moment of time, agree within $0''\cdot02$, as the result of *one* evening's work, consisting

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* These are printed in *Ast. Nach.* No. 1943.

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respectively of 24 and 40 comparisons. The comparison of seven days' observations made with a smaller telescope at Neuchâtel with those at Dublin and Lund, gave in the mean an agreement within 0″·04; both as *true* errors with which the planet's parallax would have been affected, had one of the observatories been situated in the Southern hemisphere. Another attempt to determine the value of the solar parallax in this manner would therefore appear to me worthy of recommendation even if the success of the expeditions next year for the observation of the transit of *Venus* should be in all respects satisfactory, which I apprehend can scarcely be assumed to be certain. But so advantageous an approach of one of the small planets as that of *Flora* this year cannot be expected again for several years, especially as it also comes to its perihelion *in the neighbourhood of the equator*, and so in an equally advantageous position for both hemispheres. Some other of the asteroids come indeed a little nearer the Earth, but are either less bright, or pass their perihelia in Southern declinations to which the Bonn *Durchmusterung* does not yet extend. After *Flora, Iris* and *Victoria* alone would be the most favourable.

Comparison Stars and Ephemeris of Flora, for the Opposition 1873 October and November.

Mean Berlin Midnight. Flora, 7·9 mag.

	B.D. Pag.	Star's Mag.	For Equinox of 1855·0.		Reduction for Flora (F) to 1873·8.	
			R.A.	Decl.	R.A.	Decl.
1873.			h m s	° ′	s	′
Oct. 12		F	2 45 44·3	+3 22·6	+58·6	+4·8
	83	9·3	46 14·3	3 22·3		
	83	8·2	48 40·0	3 26·1		
13	83	9·0	2 44 40·3	+3 16·0		
		F	45 3·3	3 17·5	+58·6	+4·8
	83	8·8	46 34·3	3 21·2		
14	83	8·5	2 43 16·7	+3 12·6		
		F	44 20·7	3 12·5	+58·6	+4·8
	83	9·0	44 40·3	3 16·0		
15	83	8·5	2 43 16·7	+3 12·6		
		F	43 36·3	3 7·5	+58·6	+4·8
	83	9·5	45 21·0	3 4·9		
16	83	9·2	2 40 23·8	+3 8·4		
		F	42 50·3	3 2·8	+58·6	+4·8
	83	9·0	45 2·3	3 0·8		
17		F	2 42 2·8	+2 57·8	+58·6	+4·8
	67	9·2	43 16·7	2 54·5		
	83	9·0	45 2·3	3 0·8		